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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,690	12/17/1999	PAUL H. LEAMON	4889:62	9186

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EXAMINER

BOYCE, ANDRE D

ART UNIT

PAPER NUMBER

2163

DATE MAILED: 01/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/465,690	Applicant(s) LEAMON ET AL. (D)
	Examiner Andre Boyce	Art Unit 2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 December 1999.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Claims 1-18 have been examined.

Specification

2. The abstract of the disclosure is objected to because it exceeds 150 words, and terms such as "embodiment" (see line 3) and "comprising" (see line 5) should be avoided. Correction is required. See MPEP § 608.01(b).
3. The disclosure is objected to because of the following informalities: on page 9, line 11 the sentence ending "...in which the hold those preferences." should be reworded, and on page 8, lines 23-25 the sentence beginning "Where an agent..." is unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 13, 14, 17, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 13, 14, 17, and 18 the applicant uses the term "method" in the preamble of these claims rendering them unclear and inconsistent, since the independent claim from which they depend is a product claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castonguay et al, U.S. Patent No. 5,911,134 in view of Crockett et al, U.S. Patent No. 6,044,355.

As per claim 1, Castonguay et al disclose a method for assigning a group of agents to a plurality of available schedules (see column 17, lines 65-67), comprising the steps of determining preferences for a plurality of factors for each agent (see column 18, lines 9-11), and assigning an order of importance for the plurality of factors for each employee (see column 18, lines 14-18). Castonguay et al does not explicitly disclose determining a difference value for each factor between a plurality of schedules and each agent's preference for that factor,

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assigning the difference value for each factor to an assigned vector for each agent wherein the factor having the highest importance is assigned to the highest order bits of the vector and the remaining factors assigned to subsequent orders of bits in their assigned order of importance, calculating an unassigned vector for each schedule not assigned to the agent, and assigning the schedule having the lowest vector to each agent. Crockett et al disclose a vector (one-dimensional array, see column 5, lines 47-51) containing "difference" values. It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine and assign a difference value (as seen in the Crockett et al method) for each factor to an assigned vector within the Castonguay et al method, wherein the factor with the highest importance is assigned to the highest order of bits of the vector with the remaining factors assigned accordingly, calculating an unassigned vector for each schedule not assigned to the agent, and assigning the schedule having the lowest vector. By using this vector assignment system the Castonguay et al method would be able to rapidly and effectively evaluate and assign schedules based strictly upon agent preference, just as the Castonguay et al method already implements for tour coverage (see column 18, lines 33-42).

As per claim 2, Castonguay et al does not explicitly disclose the unassigned vectors being calculated for each agent based on the assigned schedules and on schedules where factors are swapped between schedules. However, it would have been obvious to one having ordinary skill in the art at the

time the invention was made to include within the Castonguay et al method, calculating vectors based upon assigned schedules and factors being swapped between schedules. This vector calculation step would ensure that the schedule having the lowest vector is assigned to each agent, thereby increasing the overall accuracy of the method, in terms of satisfying the agent preference.

As per claim 3, Castonguay et al does not explicitly disclose the unassigned vectors first being calculated for the highest ranked agent, and the schedule having the lowest vector being assigned to that agent, further including determining the lowest vector for the next highest ranked agent, and repeating until each agent's schedule has been compared to every other agent's schedule. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this vector assignment and comparison step within the Castonguay et al method, in order to ensure that the effectiveness of the vector assignment is maintained. This vector assignment would be an obvious progression for the Castonguay et al method, which already gives provisional choice to higher ranked agents (see column 19, lines 61-67 and column 20, lines 1-2).

As per claim 4, Castonguay et al disclose agents ranked according to seniority (see column 17, lines 65-67 and column 18, lines 1-3). In order to generate schedules to satisfy agent seniority, the Castonguay et al method inherently has to rank the agents.

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As per claim 5, Castonguay et al disclose agents ranked according to performance (see column 16, lines 23-26). The "Results" dataset maintained by the Castonguay et al method, which contains the agent performance statistics, would inherently have the ability to rank the agents.

As per claim 6, Castonguay et al does not explicitly disclose a schedule being assigned from a higher ranked agent to a lower ranked agent only if the assignment will decrease the lower ranked agent's vector without increasing the higher ranked agent's vector. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this schedule swapping between agents within the Castonguay et al method. This type of schedule swapping, already seen in the Castonguay et al method (see column 19, lines 11-16) would ensure that every agent is given the lowest possible vector without compromising the higher ranked agent's vector, thereby improving the effectiveness and accuracy of the overall schedule assignment.

As per claim 7, Castonguay et al disclose the plurality of factors being selected from the group of start times, break times, lunch times, days off, end time, lunch length, split shift parameters, and hours worked (see column 18, lines 14-18).

As per claim 8, Castonguay et al disclose the plurality of schedules being preliminary assigned schedules (see column 18, lines 65-67 and column 19, lines 1-3). Once the initial tour is generated in the Castonguay et al method, the preliminary schedule is complete.

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As per claim 9, Castonguay et al disclose the plurality of schedules being a pool of schedules (see column 19, lines 34-35).

Claims 10-18 are rejected based upon the rejection of claims 1-9 respectively, since they are the computer program product claims corresponding to the method claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - Andre et al disclose a method for improving an agent schedule.
 - Gabriner et al disclose an improved Genetic Algorithm scheduling system.
 - Fields et al disclose a staff scheduling data processing system and method.
 - Fukui et al disclose creating a schedule approaching the actual conditions in a production environment.
 - Bucholtz discloses object-based technology that enables carriers to assign and schedule their work forces.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (703) 305-1867. The examiner can normally be reached on 8-4:30pm M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax

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phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


adb
January 13, 2002


TARIQ R. HAFIZ
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